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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/528,899

03/23/2005

Tatsuo Hoshino

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4162

7590 07/29/2008  
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EXAMINER

ARIANI, KADE

ART UNIT

PAPER NUMBER

1651

MAIL DATE

DELIVERY MODE

07/29/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/528,899	<b>Applicant(s)</b> HOSHINO ET AL.	
	<b>Examiner</b> KADE ARIANI	<b>Art Unit</b> 1651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### ***DETAILED ACTION***

The amendment filed on April 11, 2008, has been received and entered.

Claims 10-15 are pending in this application and were examined on their merits.

Applicant's arguments filed on 04/11/2008 with respect to claims 10-15 have been fully considered but are moot in view of the new ground(s) of rejection.

### ***Double Patenting Rejections***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 10, 11, and 13-15 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-18 of Hoshino et al. US application No. 10/528673. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are essentially reciting the same process.

Claims 10, 11, and 13-15 are drawn to a process for the production of L-aldonolactone from L-aldohexose by a microorganism belonging to the genus *Gluconobacter* capable of producing L-aldonolactone from L-aldohexose, and optionally, isolating the L-aldonolactone from the reaction mixture, wherein the L-aldonolactone is selected from the group consisting of L-gulono- 1,4 -lactone, L-gulonic acid, L-galactono- 1,4 -lactone, and L-galactonic acid, the L-aldohexose is selected from L-gulose or L-galactose, the process is conducted for 1-120 h at a pH in the range of about 1 to about 9 and a temperature in the range of from about 13°C to 45°C, and

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the process is conducted for 1-120 h at a pH in the range of about 2 to about 8 and a temperature in the range of from about 18°C to 42°C.

Claims 1-18 of Hoshino et al. ('673) disclose a process for producing L-alDONOLACTONE (L-galactono-1,4-lactone or galactonic acid, L-gulono-1,4-lactone or gulonic acid) comprising contacting an L-aldohexose (L-galactose and/or L-gulose) with the enzyme B of *G. oxydans* (DSM 4025) and isolating L-galactono-1,4-lactone or galactonic acid from the reaction mixture, the process is conducted for 1-120 h and a pH in the range of about 1 to about 9 and a temperature in the range of from about 13°C to 45°C.

Please note that, it is the ability of the enzyme (produced by *G. oxydans*) to catalyze the reaction and convert L-gulose to L-gulono-1,4-lactone or gulonic acid and L-galactose to L-galactono-1,4-lactone or galactonic acid, and that ability gives the *G. oxydans* the capability to produce the claimed products (L-alDONOLACTONE) from the claimed substrates (L-aldohexose).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the process as taught by Hoshino et al. ('673) to provide a process for the production of L-alDONOLACTONE by a microorganism belonging to the genus of *Gluconobacter* capable of producing L-alDONOLACTONE from L-aldohexose.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Hoshino et al. (US Patent No. 6,242,233).

Claims 10-15 are drawn to a process for the production of L-aldonolactone from L-aldohehexose by a microorganism belonging to the genus *Pseudomonas* or *Gluconobacter* capable of producing L-aldonolactone from L-aldohehexose, wherein the L-aldonolactone is selected from the group consisting of L-gulono- 1,4 -lactone, L-gulonic acid, L-galactono- 1,4 -lactone, and L-galactonic acid, the L-aldohehexose is selected from L-gulose or L-galactose, *P. putida* ATCC 21812 and *G. oxydans* IFO 3293, a growing culture, the process is conducted for 1-120 h at a pH in the range of about 2 to about 8 and a temperature in the range of from about 18°C to 42°C.

Hoshino et al. disclose a process for the production of L-aldonolactone from L-aldohehexose by a microorganism belonging to the genus *Gluconobacter* capable of producing L-aldonolactone from L-aldohehexose (Abstract, column 1 lines 53, column 2 lines 63 -66, and column 6 lines 16-21), the L-aldonolactone is L-gulonic acid, the L-aldohehexose is L-gulose (column 4 Table 1B), *G. oxydans* IFO 3293 and *P. putida* ATCC 21812 (column 1 lines 22-23), and growing culture for 1-120 h (1-5 days) at a pH in the

range of about 2 to about 8 and a temperature in the range of from about 18°C to 42°C (column 7 lines 1-9).

Hoshino et al. therefore, clearly anticipated the claimed process.

### ***Conclusion***

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kade Ariani whose telephone number is (571) 272-6083. The examiner can normally be reached on 9:00 am to 5:30 pm EST Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn can be reached on (571) 272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Leon B Lankford/

Primary Examiner, Art Unit 1651

Kade Ariani

Examiner

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